

# Wei Chen

## List of Publications by Year in descending order

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100  
papers

5,504  
citations

76326

40  
h-index

82547

72  
g-index

102  
all docs

102  
docs citations

102  
times ranked

4587  
citing authors

#	ARTICLE	IF	CITATIONS
1	Transmit and receive transmission line arrays for 7 Tesla parallel imaging. <i>Magnetic Resonance in Medicine</i> , 2005, 53, 434-445.	3.0	374
2	In vivo NAD assay reveals the intracellular NAD contents and redox state in healthy human brain and their age dependences. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 2876-2881.	7.1	337
3	Analysis of wave behavior in lossy dielectric samples at high field. <i>Magnetic Resonance in Medicine</i> , 2002, 47, 982-989.	3.0	225
4	Ultrahigh field magnetic resonance imaging and spectroscopy. <i>Magnetic Resonance Imaging</i> , 2003, 21, 1263-1281.	1.8	218
5	Quantitative imaging of energy expenditure in human brain. <i>NeuroImage</i> , 2012, 60, 2107-2117.	4.2	206
6	ProtonT2 relaxation study of water, N-acetylaspartate, and creatine in human brain using Hahn and Carr-Purcell spin echoes at 4T and 7T. <i>Magnetic Resonance in Medicine</i> , 2002, 47, 629-633.	3.0	191
7	Microstrip RF surface coil design for extremely high-field MRI and spectroscopy. <i>Magnetic Resonance in Medicine</i> , 2001, 46, 443-450.	3.0	186
8	Human primary visual cortex and lateral geniculate nucleus activation during visual imagery. <i>NeuroReport</i> , 1998, 9, 3669-3674.	1.2	185
9	Tightly coupled brain activity and cerebral ATP metabolic rate. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 6409-6414.	7.1	173
10	In vivo <sup>31</sup> P magnetic resonance spectroscopy of human brain at 7 T: An initial experience. <i>Magnetic Resonance in Medicine</i> , 2003, 49, 199-205.	3.0	157
11	Neural Origin of Spontaneous Hemodynamic Fluctuations in Rats under Burst-Suppression Anesthesia Condition. <i>Cerebral Cortex</i> , 2011, 21, 374-384.	2.9	157
12	Development of <sup>17</sup> O NMR approach for fast imaging of cerebral metabolic rate of oxygen in rat brain at high field. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 13194-13199.	7.1	131
13	Manipulation of image intensity distribution at 7.0 T: Passive RF shimming and focusing with dielectric materials. <i>Journal of Magnetic Resonance Imaging</i> , 2006, 24, 197-202.	3.4	127
14	Efficient in vivo <sup>31</sup> P magnetization transfer approach for noninvasively determining multiple kinetic parameters and metabolic fluxes of ATP metabolism in the human brain. <i>Magnetic Resonance in Medicine</i> , 2007, 57, 103-114.	3.0	113
15	Study of tricarboxylic acid cycle flux changes in human visual cortex during hemifield visual stimulation using <sup>1</sup> H- <sup>13</sup> C MRS and fMRI. <i>Magnetic Resonance in Medicine</i> , 2001, 45, 349-355.	3.0	112
16	In vivo <sup>1</sup> H <sub>2</sub> O T <sub>2</sub> measurement in the human occipital lobe at 4T and 7T by Carr-Purcell MRI: Detection of microscopic susceptibility contrast. <i>Magnetic Resonance in Medicine</i> , 2002, 47, 742-750.	3.0	109
17	In vivo <sup>17</sup> O NMR approaches for brain study at high field. <i>NMR in Biomedicine</i> , 2005, 18, 83-103.	2.8	108
18	The Change of Functional Connectivity Specificity in Rats Under Various Anesthesia Levels and its Neural Origin. <i>Brain Topography</i> , 2013, 26, 363-377.	1.8	99

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19	Quantitative assessment of brain glucose metabolic rates using in vivo deuterium magnetic resonance spectroscopy. Journal of Cerebral Blood Flow and Metabolism, 2017, 37, 3518-3530.	4.3	99
20	A microstrip transmission line volume coil for human head MR imaging at 4T. Journal of Magnetic Resonance, 2003, 161, 242-251.	2.1	98
21	Measurement of unidirectional Pi to ATP flux in human visual cortex at 7 T by using in vivo 31P magnetic resonance spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 14409-14414.	7.1	98
22	Observed BOLD effects on cerebral metabolite resonances in human visual cortex during visual stimulation: A functional 1H MRS study at 4 T. Magnetic Resonance in Medicine, 2001, 46, 841-847.	3.0	90
23	An Inverted-Microstrip Resonator for Human Head Proton MR Imaging at 7 Tesla. IEEE Transactions on Biomedical Engineering, 2005, 52, 495-504.	4.2	87
24	17O relaxation time and NMR sensitivity of cerebral water and their field dependence. Magnetic Resonance in Medicine, 2001, 45, 543-549.	3.0	82
25	Increase of creatine kinase activity in the visual cortex of human brain during visual stimulation: A 31p NMR magnetization transfer study. Magnetic Resonance in Medicine, 1997, 38, 551-557.	3.0	81
26	Mapping of lateral geniculate nucleus activation during visual stimulation in human brain using fMRI. Magnetic Resonance in Medicine, 1998, 39, 89-96.	3.0	72
27	In vivo 31P MRS of human brain at high/ultrahigh fields: a quantitative comparison of NMR detection sensitivity and spectral resolution between 4 T and 7 T. Magnetic Resonance Imaging, 2006, 24, 1281-1286.	1.8	71
28	Simultaneous oxygenation and perfusion imaging study of functional activity in primary visual cortex at different visual stimulation frequency: Quantitative correlation between BOLD and CBF changes. Magnetic Resonance in Medicine, 1998, 40, 703-711.	3.0	65
29	Simplified Methods for Calculating Cerebral Metabolic Rate of Oxygen Based on 17O Magnetic Resonance Spectroscopic Imaging Measurement during a Short 17O2 Inhalation. Journal of Cerebral Blood Flow and Metabolism, 2004, 24, 840-848.	4.3	58
30	Higher-order harmonic transmission-line RF coil design for MR applications. Magnetic Resonance in Medicine, 2005, 53, 1234-1239.	3.0	54
31	Noninvasive and Three-Dimensional Imaging of CMRO2 in Rats at 9.4 T: Reproducibility Test and Normothermia/Hypothermia Comparison Study. Journal of Cerebral Blood Flow and Metabolism, 2007, 27, 1225-1234.	4.3	54
32	Simultaneous and noninvasive imaging of cerebral oxygen metabolic rate, blood flow and oxygen extraction fraction in stroke mice. NeuroImage, 2013, 64, 437-447.	4.2	54
33	Intracellular redox state revealed by in vivo 31P MRS measurement of NAD+ and NADH contents in brains. Magnetic Resonance in Medicine, 2014, 71, 1959-1972.	3.0	54
34	Investigating the source of BOLD nonlinearity in human visual cortex in response to paired visual stimuli. NeuroImage, 2008, 43, 204-212.	4.2	53
35	New Insights into Central Roles of Cerebral Oxygen Metabolism in the Resting and Stimulus-Evoked Brain. Journal of Cerebral Blood Flow and Metabolism, 2009, 29, 10-18.	4.3	51
36	ATP Production Rate via Creatine Kinase or ATP Synthase In Vivo. Circulation Research, 2011, 108, 653-663.	4.5	48

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37	High Spatial Resolution Functional Magnetic Resonance Imaging at Very-High-Magnetic Field. Topics in Magnetic Resonance Imaging, 1999, 10, 63-78.	1.2	47
38	In vivo oxygen-17 NMR for imaging brain oxygen metabolism at high field. Progress in Nuclear Magnetic Resonance Spectroscopy, 2011, 59, 319-335.	7.5	44
39	Spatial and temporal differentiation of fMRI BOLD response in primary visual cortex of human brain during sustained visual stimulation. Magnetic Resonance in Medicine, 1998, 39, 520-527.	3.0	42
40	Baseline BOLD correlation predicts individuals' stimulus-evoked BOLD responses. NeuroImage, 2011, 54, 2278-2286.	4.2	41
41	Determination of deoxymyoglobin changes during graded myocardial ischemia: Anin Vivo <sup>1</sup> H NMR spectroscopy study. Magnetic Resonance in Medicine, 1997, 38, 193-197.	3.0	39
42	Advanced In Vivo Heteronuclear MRS Approaches for Studying Brain Bioenergetics Driven by Mitochondria. Methods in Molecular Biology, 2009, 489, 317-357.	0.9	37
43	Detecting natural abundance carbon signal of NAA metabolite within 12-cm <sup>3</sup> localized volume of human brain using <sup>1</sup> H- <sup>13</sup> C NMR spectroscopy. Magnetic Resonance in Medicine, 1998, 40, 180-184.	3.0	36
44	Field dependence study of <i>in vivo</i> brain <sup>31</sup> P MRS up to 16.4 T. NMR in Biomedicine, 2014, 27, 1135-1141.	2.8	36
45	<i>In vivo</i> <sup>31</sup> P MRS assessment of intracellular NAD metabolites and NAD <sup>+</sup> /NADH redox state in human brain at 4 T. NMR in Biomedicine, 2016, 29, 1010-1017.	2.8	33
46	In vivo proton MRS to quantify anesthetic effects of pentobarbital on cerebral metabolism and brain activity in rat. Magnetic Resonance in Medicine, 2009, 62, 1385-1393.	3.0	32
47	Changes in the proton T <sub>2</sub> relaxation times of cerebral water and metabolites during forebrain ischemia in rat at 9.4 T. Magnetic Resonance in Medicine, 2003, 49, 979-984.	3.0	31
48	Phantom design method for high-field MRI human systems. Magnetic Resonance in Medicine, 2004, 52, 1016-1020.	3.0	31
49	Noninvasive Study of Neurovascular Coupling during Graded Neuronal Suppression. Journal of Cerebral Blood Flow and Metabolism, 2008, 28, 280-290.	4.3	31
50	Influence of gradient acoustic noise on fMRI response in the human visual cortex. Magnetic Resonance in Medicine, 2005, 54, 258-263.	3.0	27
51	Quantitative imaging of brain energy metabolisms and neuroenergetics using <i>in vivo</i> X-nuclear <sup>2</sup> H, <sup>17</sup> O and <sup>31</sup> P MRS at ultra-high field. Journal of Magnetic Resonance, 2018, 292, 155-170.	2.1	27
52	In vitro and <i>in vivo</i> studies of <sup>17</sup> O NMR sensitivity at 9.4 and 16.4 T. Magnetic Resonance in Medicine, 2013, 69, 1523-1527.	3.0	26
53	Pharmacokinetics, Safety, and Tolerability of Orally Administered Ursodeoxycholic Acid in Patients With Parkinson's Disease—A Pilot Study. Journal of Clinical Pharmacology, 2020, 60, 744-750.	2.0	25
54	Improvements of transmit efficiency and receive sensitivity with ultrahigh dielectric constant (uHDC) ceramics at 1.5 T and 3 T. Magnetic Resonance in Medicine, 2018, 79, 2842-2851.	3.0	24

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55	In vitro and in vivo studies of $^1\text{H}$ NMR visibility to detect deoxyhemoglobin and deoxymyoglobin signals in myocardium. <i>Magnetic Resonance in Medicine</i> , 1999, 42, 1-5.	3.0	21
56	Correlation of activation sizes between lateral geniculate nucleus and primary visual cortex in humans. <i>Magnetic Resonance in Medicine</i> , 2001, 45, 202-205.	3.0	21
57	In vivo $^{17}\text{O}$ MRS imaging – Quantitative assessment of regional oxygen consumption and perfusion rates in living brain. <i>Analytical Biochemistry</i> , 2017, 529, 171-178.	2.4	21
58	High-resolution fMRI mapping of ocular dominance layers in cat lateral geniculate nucleus. <i>NeuroImage</i> , 2010, 50, 1456-1463.	4.2	19
59	A dynamic fMRI study of illusory double-flash effect on human visual cortex. <i>Experimental Brain Research</i> , 2006, 172, 57-66.	1.5	18
60	A proof-of-concept study for developing integrated two-photon microscopic and magnetic resonance imaging modality at ultrahigh field of 16.4 tesla. <i>Scientific Reports</i> , 2017, 7, 2733.	3.3	18
61	Novel strategy for measuring creatine kinase reaction rate in the in vivo heart. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2009, 297, H1010-H1019.	3.2	17
62	Functional energetic responses and individual variance of the human brain revealed by quantitative imaging of adenosine triphosphate production rates. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2018, 38, 959-972.	4.3	17
63	In vivo measurement of CBF using $^{17}\text{O}$ NMR signal of metabolically produced $\text{H}_2^{17}\text{O}$ as a perfusion tracer. <i>Magnetic Resonance in Medicine</i> , 2013, 70, 309-314.	3.0	16
64	Mapping Brain Metabolites Using a Double Echo-Filter Metabolite Imaging (DEFMI) Technique. <i>Journal of Magnetic Resonance</i> , 1999, 140, 363-370.	2.1	15
65	Measurement of arterial input function of $^{17}\text{O}$ water tracer in rat carotid artery by using a region-defined (REDE) implanted vascular RF coil. <i>Magnetic Resonance Materials in Physics, Biology, and Medicine</i> , 2003, 16, 77-85.	2.0	15
66	Dynamic study of cerebral bioenergetics and brain function using in vivo multinuclear MRS approaches. <i>Concepts in Magnetic Resonance Part A: Bridging Education and Research</i> , 2005, 27A, 84-121.	0.5	15
67	Dynamic correlations between hemodynamic, metabolic, and neuronal responses to acute whole-brain ischemia. <i>NMR in Biomedicine</i> , 2015, 28, 1357-1365.	2.8	15
68	Functional MRI mapping neuronal inhibition and excitation at columnar level in human visual cortex. <i>Experimental Brain Research</i> , 2010, 204, 515-524.	1.5	14
69	Noninvasive assessment of myocardial energy metabolism and dynamics using in vivo deuterium MRS imaging. <i>Magnetic Resonance in Medicine</i> , 2021, 86, 2899-2909.	3.0	13
70	Large improvement of RF transmission efficiency and reception sensitivity for human in vivo $^{31}\text{P}$ MRS imaging using ultrahigh dielectric constant materials at 7 T. <i>Magnetic Resonance Imaging</i> , 2017, 42, 158-163.	1.8	12
71	Simultaneous Measurement of Glucose Blood–Brain Transport Constants and Metabolic Rate in Rat Brain using <i>in-vivo</i> $^1\text{H}$ MRS. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2012, 32, 1778-1787.	4.3	11
72	In vivo X-Nuclear MRS Imaging Methods for Quantitative Assessment of Neuroenergetic Biomarkers in Studying Brain Function and Aging. <i>Frontiers in Aging Neuroscience</i> , 2018, 10, 394.	3.4	11

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73	High-resolution imaging of distinct human corpus callosum microstructure and topography of structural connectivity to cortices at high field. <i>Brain Structure and Function</i> , 2019, 224, 949-960.	2.3	11
74	Machine Learning-Enabled High-Resolution Dynamic Deuterium MR Spectroscopic Imaging. <i>IEEE Transactions on Medical Imaging</i> , 2021, 40, 3879-3890.	8.9	11
75	Quantitative Assessment of Occipital Metabolic and Energetic Changes in Parkinson's Patients, Using In Vivo 31P MRS-Based Metabolic Imaging at 7T. <i>Metabolites</i> , 2021, 11, 145.	2.9	11
76	An fMRI study of neural interaction in large-scale cortico-thalamic visual network. <i>NeuroImage</i> , 2008, 42, 1110-1117.	4.2	8
77	High Magnetic Fields for Imaging Cerebral Morphology, Function, and Biochemistry. <i>Biological Magnetic Resonance</i> , 2006, , 285-342.	0.4	8
78	Image homogenization using pre-emphasis method for high field MRI. <i>Quantitative Imaging in Medicine and Surgery</i> , 2013, 3, 217-23.	2.0	8
79	Rapid and simultaneous measurement of phosphorus metabolite pool size ratio and reaction kinetics of enzymes in vivo. <i>Journal of Magnetic Resonance Imaging</i> , 2018, 47, 210-221.	3.4	7
80	Tunable Ultrahigh Dielectric Constant (tuHDC) Ceramic Technique to Largely Improve RF Coil Efficiency and MR Imaging Performance. <i>IEEE Transactions on Medical Imaging</i> , 2020, 39, 3187-3197.	8.9	7
81	Quantitative and simultaneous measurement of oxygen consumption rates in rat brain and skeletal muscle using <sup>17</sup> O MRS imaging at 16.4T. <i>Magnetic Resonance in Medicine</i> , 2021, 85, 2232-2246.	3.0	7
82	<sup>1</sup> H MRS in the rat brain under pentobarbital anesthesia: Accurate quantification of in vivo spectra in the presence of propylene glycol. <i>Magnetic Resonance in Medicine</i> , 2008, 59, 631-635.	3.0	6
83	Relayed magnetization transfer from nuclear Overhauser effect and chemical exchange observed by in vivo 31P MRS in rat brain. <i>Magnetic Resonance Imaging</i> , 2012, 30, 716-721.	1.8	6
84	<sup>17</sup> O relaxation times in the rat brain at 16.4 tesla. <i>Magnetic Resonance in Medicine</i> , 2016, 75, 1886-1893.	3.0	6
85	Large Enhancement of Perfusion Contribution on fMRI Signal. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2012, 32, 907-918.	4.3	5
86	Focal middle cerebral artery ischemia in rats via a transfemoral approach using a custom designed microwire. <i>Journal of NeuroInterventional Surgery</i> , 2016, 8, 608-614.	3.3	5
87	Interleaved <sup>31</sup> P MRS imaging of human frontal and occipital lobes using dual RF coils in combination with single-channel transmitter-receiver and dynamic <sup>1</sup> B <sub>0</sub> shimming. <i>NMR in Biomedicine</i> , 2018, 31, e3842.	2.8	4
88	Functional MRI study of brain function under resting and activated states. , 2009, 2009, 4061-3.		3
89	Quantitative analysis of spatial averaging effect on chemical shift imaging SNR and noise coherence with k-space sampling schemes. <i>Magnetic Resonance Imaging</i> , 2019, 60, 85-92.	1.8	3
90	Simultaneous Imaging of CBF Change and BOLD with Saturation-Recovery-T1 Method. <i>PLoS ONE</i> , 2015, 10, e0122563.	2.5	3

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91	31P-31P coupling and ATP2 measurement in human brain at 7T. Magnetic Resonance in Medicine, 2003, 50, 656-658.	3.0	2
92	Imaging Cerebral Metabolic Rate of Oxygen Consumption (CMRO2) Using 17O NMR Approach at Ultrahigh Field. , 2005, , 125-146.		2
93	New Opportunities for High-Field In Vivo MRS in Studying Brain Bioenergetics and Function. Brain Imaging and Behavior, 2008, 2, 232-241.	2.1	1
94	A comparison study between the saturation-recovery-T 1 and CASL MRI methods for quantitative CBF imaging. Magnetic Resonance Imaging, 2017, 37, 179-186.	1.8	1
95	Advanced Multinuclear Magnetic Resonance Spectroscopy (MRS) Imaging Approaches for Studying Brain Metabolism, Neuroenergetics, and Function. , 2019, , 463-491.		1
96	Study of Brain Bioenergetics and Function Using In Vivo MRS. Biological Magnetic Resonance, 2015, , 819-864.	0.4	1
97	Study of Brain Function and Bioenergetics using fMRI and In Vivo MRS at High Fields. , 2005, 2005, 4174-7.		0
98	Probing Fast Neuronal Interaction using fMRI. , 2006, 2006, 13-6.		0
99	Advanced Neuroimaging Approaches of Magnetic Resonance for Brain Function Research. , 2007, , .		0
100	Brain imaging developments based on in vivo MRS. , 2009, 2009, 50-2.		0